Agilent G1369B LAN Interface

User Manual

Agilent Technologies

Notices

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This guide is valid for A.01.xx revisions of the Agilent G1369B LAN Interface software, where xx refers to minor revisions of the software that do not affect the technical accuracy of this guide.

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In This Guide...

This guide contains information to install the LAN Interface (G1369B).

1 Introduction - Around your LAN Interface

In this chapter you will find an introduction to the LAN Interface and its function.

2 Getting Started

In this chapter you will find instructions to help you to set-up your LAN Interface based on the Agilent 1100/1200/1260 series HPLC modules.

3 Getting Help

In this chapter you will find support information about troubleshooting, repair and the Agilent web.

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In this chapter you will find an introduction to the LAN Interface and its function.

Introduction to the LAN Interface

The LAN Interface (Local Area Network) is the Agilent replacement for the previously used HP JetDirect card in the Agilent 1100/1200/1260 series HPLC modules, the 8453 UV-vis spectrophometer, the 35900E A/D converter and the 6850 Series GC.

Figure 1 LAN Interface

Versions of LAN Cards

Table 1

Product Number	Part Number	Comments
• G1369B	G1369-60002	introduced 03/2010, same features as G1369A, replaces G1369A, backward compatible
• G1369A	G1369-60001	introduced 10/2003

NOTE **Compared to the G1369A LAN Card, SW 7 and SW 8 must be always in OFF position on the G1369B LAN Card, otherwise the selected modes are not working. See "Configuration Switches" on page 21.**

LAN Control - What Exactly Does It Do?

In its simplest form...

- control of your instrument and acquires data "remotely" from your desktop (easier access),
- a direct replacement for GP-IB (HP-IB) interface protocol,
- allows your instrument to be placed anywhere on the laboratory/corporate network,
- improves lab "ergonomics" (better organization),

LAN Interface - What Has To Be Done?

- install LAN Interface into the instrument
- install network interface card (NIC) into PC (if not already pre-installed or on-board).
- connect to instrument
  - direct with cross-over cable or
  - to HUB with twisted pair cable
- configure instrument on LAN

LAN Control Configurations

The basic LAN configurations are shown below.

Local Configuration Using Cross-over Cable

The simplest way is a configuration with a single system.

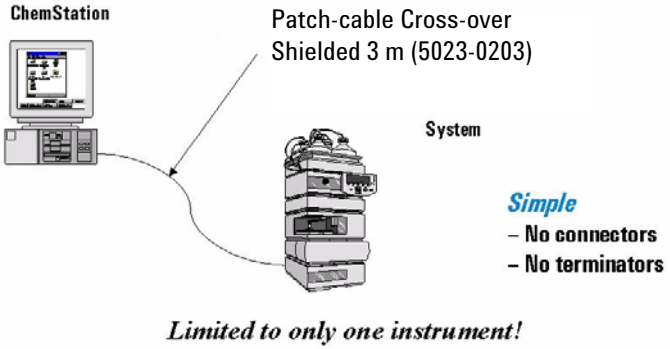

Figure 2 Local configuration using cross-over cable

LAN Using a HUB and Twisted Pair Cables

More complicated setup than direct cross-over connection.

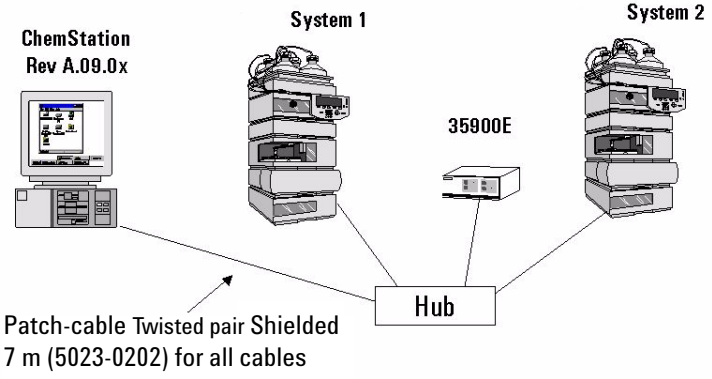

Figure 3 LAN configuration using a HUB and twisted pair cables

LAN With Existing Customer Network

Use MDI/MDI-X port or “Cascade” Port with standard twisted pair cable to connect Hub to a “parent” hub. IP Addresses and other TCP/IP configuration information MUST be provided by the customer’s IT organization. The customer LAN must be able to handle instrument data and must have sufficient bandwidth for instrument acquisition (no overnight backups over the LAN).

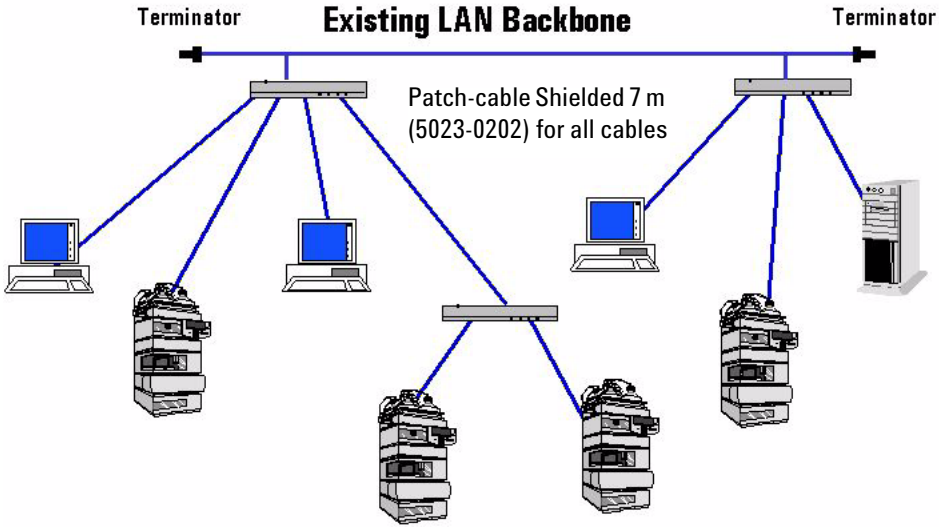

Figure 4 LAN configuration with existing customer network

LAN Interface Compatibility

The table below lists the minimum requirements for LAN operation with the LAN Interface.

Table 2 LAN Compatibility

Instrument/Operating Software	Revision (minimum)
Agilent 1100/1200 modules	Firmware A.03.80 and Revision 2 mainboard, see Table 3
Agilent 1260 Infinity modules	All revisions
Agilent Instant Pilot G4208A	All revsions show the status page, editing is possible, see Figure 34 on page 45.
Agilent Control Module G1323A	All revsions show just the status page, no editing possible
Agilent Control Module G1323B	All revsions below B.02.02 show just the status page, no editing possible. With B.02.02 and above editing is possible, see Figure 34 on page 45.
Agilent 8453 Spectrophotometer	Firmware 3.30
Agilent 35900E A/D converter	requires G1369A board revision Rev. C.03.00 (introduced 04/2005) or G1369B
Agilent 6850 Series GC	requires G1369A board revision Rev. C.03.00 (introduced 04/2005) or G1369B
Agilent Control Module G1818A	No viewing or editing possible
Agilent ChemStation software	A.06.02 or later

LAN Compatibility On Early 1100 Modules

All 1100 Series HPLC modules shipped prior to 1997 are NOT compatible with the LAN Interface communication. The modules which host the LAN Interface (usually the detector module) requires a new main board. The serial number break of the 1100 series modules and the part numbers for the new boards are listed below.

Table 3 LAN compatibility on early 1100 modules

1100 Module	S/N break	P/N Mainboard
G1310A	below DE64300355, US64400233	G1311-66520 or higher
G1311A	below DE64301137, US64401134	G1311-66520 or higher
G1312A	below DE64300703, US64400425	G1312-66520 or higher
G1313A	below DE64302092, US64400886	G1313-66520 or higher
G1314A	below JP64201926	G1314-66521 or higher
G1315A	below DE64301532, US64400333	G1315-66520 or higher

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In this chapter you will find instructions to help you to set-up your LAN Interface based on the Agilent 1100/1200/1260 series HPLC modules.

Installing and Cabling the LAN Interface

What You Will Get

- G1369B LAN Interface
- LAN cables (for part numbers see “Repair and Parts Information” on page 54)

Patch-cable
Twisted pair Shielded 7 m
(5023-0202)

Patch-cable
Cross-over Shielded 3 m
(5023-0203)

CD-ROM with the manual

LAN Interface
(G1369-60002)

Figure 5 What you will get (Content of G1369B)

What You Have To Do First

NOTE Use an ESD (Electro-Static Discharge) wrist strap when handling electronics. Refer to your instrument manual for details.

1 Remove the LAN Interface from it's packaging.

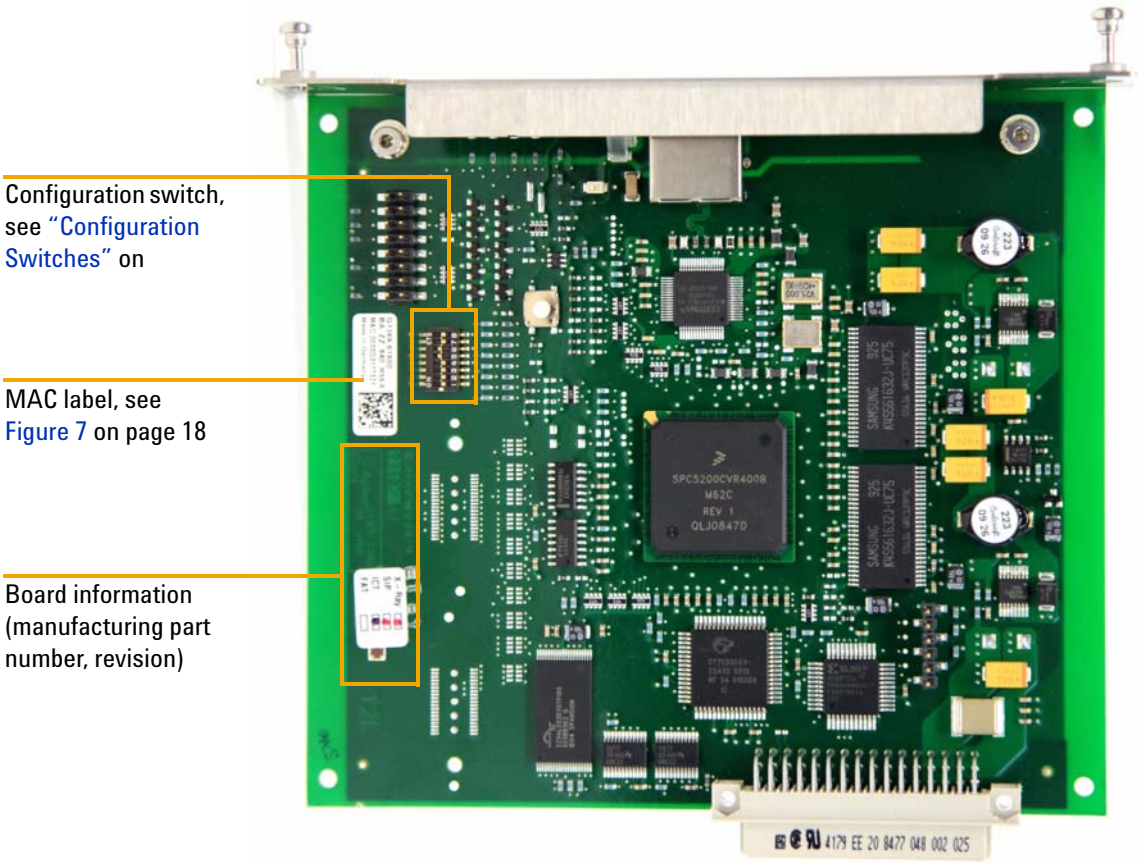

Configuration switch, see "Configuration Switches" on
MAC label, see Figure 7 on page 18
Board information (manufacturing part number, revision)
5PC5200CVR400B
M62C
REV 1
QLJ0847D
4179 EE 20 8477 048 002 025

Figure 6 Board Layout G1369B

2 Note the MAC (Media Access Control) address for further reference. The MAC or hardware address of the LAN Interface is a world wide unique identifier. No other network device will have the same hardware address. The MAC address can be found on a label on the card (see Figure 6 on page 17).

Part number of the LAN Interface, see page 54
Revision Code, Vendor, Year and Week of assembly
MAC address
Country of Origin

Figure 7 MAC-Label

3 Turn off instrument line power or remove the power cord before installing the LAN Interface.

4 On your instrument, identify the option slot for the MIO accessory card.

5 Remove any blank cover plates and ensure that the slot is empty.

NOTE

If the module has the 1100 CAN modification board installed, it probably has a revision 1 mainboard and will not accept the LAN interface. Refer to "LAN Interface Compatibility" on page 13

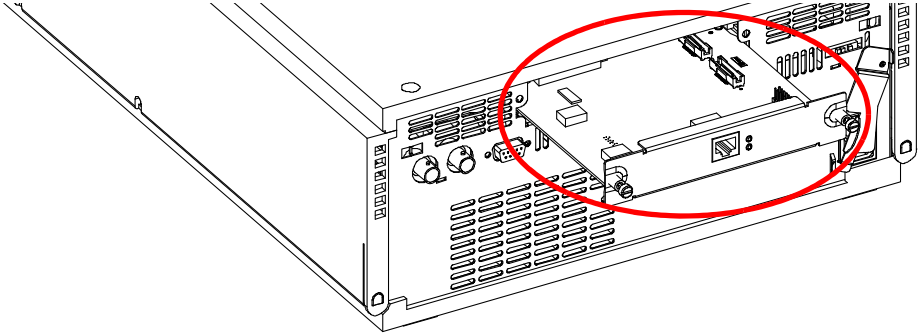


Figure 8 Location of LAN Interface (e.g. 1100/1200 series detector)

NOTE In 1100/1200/1260 systems, the LAN Interface should be installed in the detector (DAD, MWD, FLD, VWD) due to its higher data handling rate. If no 1100/1200/1260 detector available, use the pump or the autosampler (in this order).

NOTE The LAN Interface is shipped with the Bootp initialization mode and will use the parameters (IP, Subnet Mask and Default Gateway addresses) from a Bootp server. If you need another initialization mode or other settings, refer to "Initialization Mode Selection" on page 22 for details before doing the next step.

6 Carefully slide the LAN Interface into the slot. Some pressure may be necessary to properly seat the board. Tighten the screws.

7 Disconnect your PC from the network and connect the PC network card to the instrument's LAN Interface using a Crossover Network cable (point-to-point) or alternatives, see page 11 and page 12.

CAUTION Be careful that you connect the LAN cable to the LAN Interface and NOT one of the CAN connections. The CAN bus uses 12-Volt signals, and a misconnection to the CAN bus may destroy network equipment on the other end of the cable.

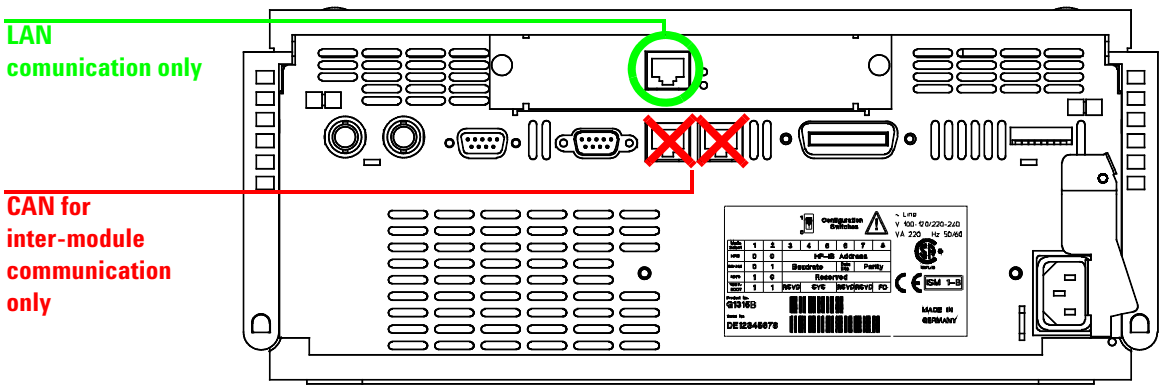


Figure 9 Connect the LAN cable to the correct connector

LAN Interface Configuration

TCP/IP Parameter Configuration

To operate properly in a network environment, the LAN Interface must be configured with valid TCP/IP network parameters. These parameters are:

- IP address
- Subnet Mask
- Default Gateway

The TCP/IP parameters can be configured by the following methods:

- by automatically requesting the parameters from a network-based BOOTP Server (using the so-called Bootstrap Protocol)
- by manually setting the parameters using Telnet
- by manually setting the parameters using the Agilent Instant Pilot (G4208A)
- by manually setting the parameters using the Handheld Controller (G1323A/B)

The LAN Interface differentiates between several initialization modes. The initialization mode (short form ‘init mode’) defines how to determine the active TCP/IP parameters after power-on. The parameters may be derived from a Bootp cycle, non-volatile memory or initialized with known default values. The initialization mode is selected by the configuration switch, see Figure 10 on page 21.

Configuration Switches

The configuration switches are mounted on the card, see Figure 10.

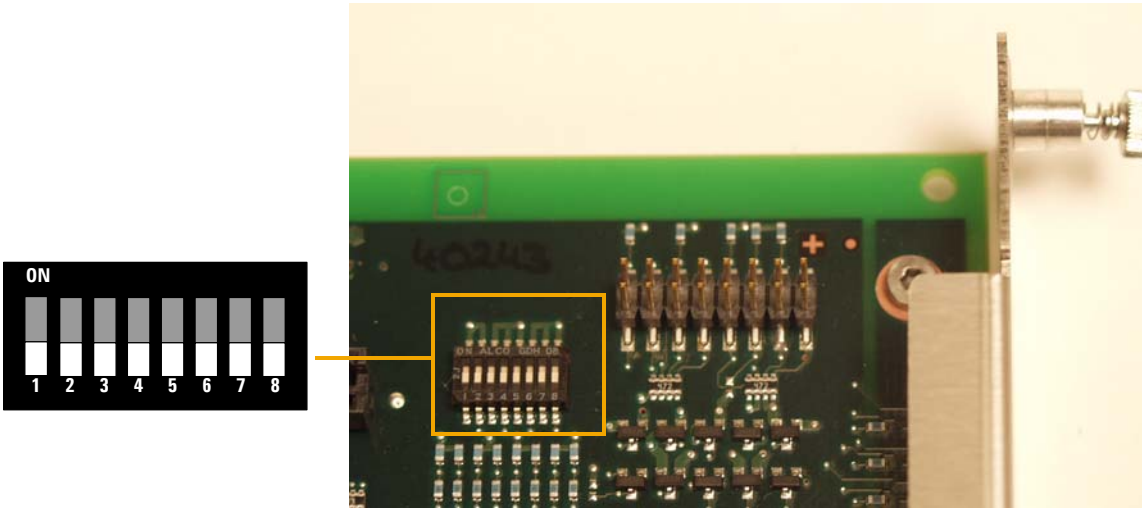


Figure 10 Location of Configuration Switches

The LAN Interface is shipped with all switches set to OFF, as shown above.

Table 4 Factory Default Settings

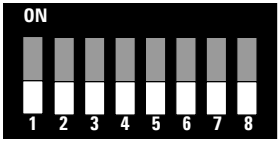
Initialization ('Init') Mode	Bootp, for details see page 22
Link Configuration	speed and duplex mode determined by auto-negotiation, for details see page 26

NOTE **Compared to the G169A LAN Card, SW 7 and SW 8 must be always in OFF position on the G1369B LAN Card, otherwise the selected modes are not working.**

Initialization Mode Selection

The following initialization (init) modes are selectable:

Table 5 Initialization Mode Switches

	SW 4	SW 5	SW 6	SW 7	SW 8	Init Mode
	OFF	OFF	OFF	OFF	OFF	Bootp
	OFF	OFF	ON	OFF	OFF	Bootp & Store
	OFF	ON	OFF	OFF	OFF	Using Stored
	OFF	ON	ON	OFF	OFF	Using Default

NOTE **Compared to the G169A LAN Card, SW 7 and SW 8 must be always in OFF position on the G1369B LAN Card, otherwise the selected modes are not working.**

Bootp

When the initialization mode “Bootp” is selected, the card tries to download the parameters from a Bootp Server. The parameters obtained become the active parameters immediately. They are not stored to the non-volatile memory of the card. Therefore, the parameters are lost with the next power cycle of the card.

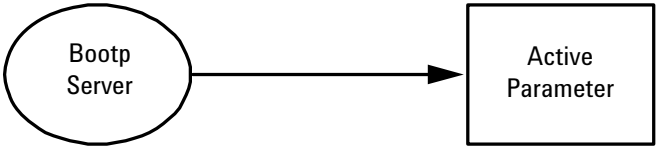


Figure 11 Bootp (Principle)

Bootp & Store

When “Bootp & Store” is selected, the parameters obtained from a Bootp Server become the active parameters immediately. In addition, they are stored to the non-volatile memory of the card. Thus, after a power cycle they are still available. This enables a kind of “bootp once” configuration of the card.

Example: The user may not want to have a Bootp Server be active in his network all the time. But on the other side, he may not have any other configuration method than Bootp. In this case he starts the Bootp Server temporarily, powers on the card using the initialization mode “Bootp &Store”, waits for the Bootp cycle to be completed, closes the Bootp Server and powers off the card. Then he selects the initialization mode “Using Stored” and powers on the card again. From now on, he is able to establish the TCP/IP connection to the card with the parameters obtained in that single Bootp cycle.

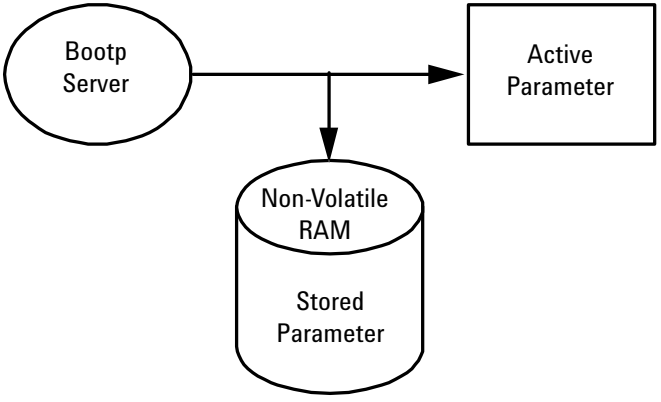


Figure 12 Bootp & Store (Principle)

NOTE Use the initialization mode “Bootp & Store” carefully, because writing to the non-volatile memory takes time. Therefore, when the card shall obtain its parameters from a Bootp Server every time it is powered on, the recommended initialization mode is “Bootp”!

Using Stored

When initialization mode “Using Stored” is selected, the parameters are taken from the non-volatile memory of the card. The TCP/IP connection will be established using these parameters. The parameters were configured previously by one of the described methods.

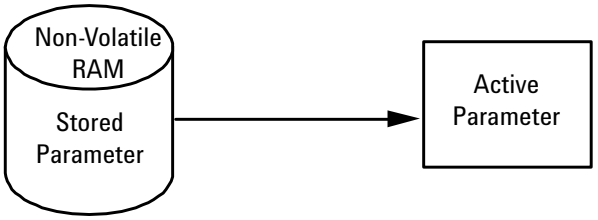


Figure 13 Using Stored (Principle)

Using Default

When “Using Default” is selected, the factory default parameters are taken instead. These parameters enable a TCP/IP connection to the LAN Interface without further configuration, see Table 6.

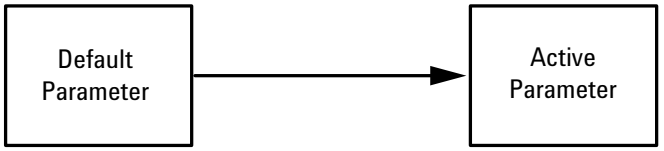


Figure 14 Using Default (Principle)

NOTE Using the default address in your local area network may result in network problems. Take care and change it to a valid address immediately.

Table 6 Using Default Parameters

IP address:	192.168.254.11
Subnet Mask:	255.255.255.0
Default Gateway	not specified

Since the default IP address is a so-called local address, it will not be routed by any network device. Thus, the PC and the card must reside in the same subnet.

The user may open a Telnet session using the default IP address and change the parameters stored in the non-volatile memory of the card. He may then close the session, select the initialization mode “Using Stored”, power-on again and establish the TCP/IP connection using the new parameters.

When the card is wired to the PC directly (e.g. using a cross-over cable or a local hub), separated from the local area network, the user may simply keep the default parameters to establish the TCP/IP connection.

NOTE

In the “Using Default” mode, the parameters stored in the memory of the card are not cleared automatically. If not changed by the user, they are still available, when switching back to the mode “Using Stored”.

Link Configuration Selection

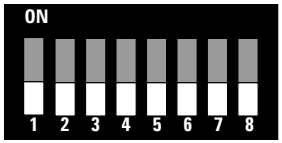
The LAN Interface supports 10 or 100 Mbps operation in full- or half-duplex modes. In most cases, full-duplex is supported when the connecting network device - such as a network switch or hub - supports IEEE 802.3u auto-negotiation specifications.

When connecting to network devices that do not support auto-negotiation, the LAN Interface will configure itself for 10- or 100-Mbps half-duplex operation.

For example, when connected to a non-negotiating 10-Mbps hub, the LAN Interface will be automatically set to operate at 10-Mbps half-duplex.

If the card is not able to connect to the network through auto-negotiation, you can manually set the link operating mode using link configuration switches on the card.

Table 7 Link Configuration Switches

	SW 1	SW 2	SW 3	SW 7	SW 8	Link Configuration
	OFF	-	-	OFF	OFF	speed and duplex mode determined by auto-negotiation
	ON	OFF	OFF	OFF	OFF	manually set to 10 Mbps, half-duplex
	ON	OFF	ON	OFF	OFF	manually set to 10 Mbps, full-duplex
	ON	ON	OFF	OFF	OFF	manually set to 100 Mbps, half-duplex
	ON	ON	ON	OFF	OFF	manually set to 100 Mbps, full-duplex

NOTE **Compared to the G169A LAN Card, SW 7 and SW 8 must be always in OFF position on the G1369B LAN Card, otherwise the selected modes are not working.**

Automatic Configuration with Bootp

When automatic configuration with Bootp is selected and the LAN Interface is powered on, it broadcasts a BOOTP (Bootstrap Protocol) request that contains its MAC (hardware) address. A BOOTP server daemon searches its database for a matching MAC address, and if successful, sends the corresponding configuration parameters to the card as a BOOTP reply. These parameters become the active TCP/IP parameters immediately and the TCP/IP connection can be established.

Configuring the Agilent Bootp Service Program

NOTE All examples shown in this chapter will not work in your environment. You need your own IP-, Subnet-Mask- and Gateway addresses.

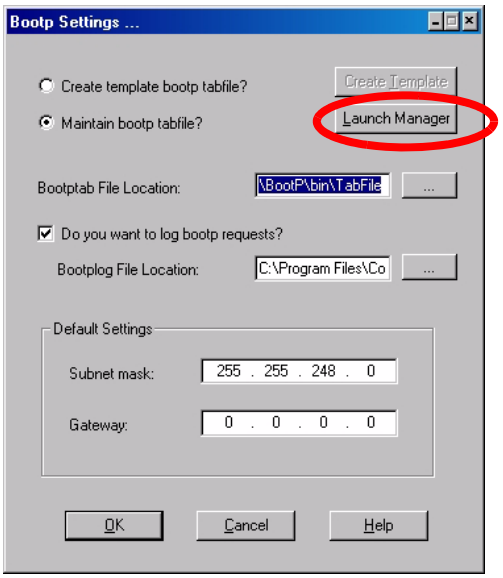
NOTE Assure that the detector configuration switch is set properly. The setting should be either **Bootp** or **Bootp & Store,** see Table 5 on page 22.

NOTE Assure that the detector connected to the network is powered off.

NOTE If the Agilent Bootp Service program is not already installed on your PC, then install it from your Agilent ChemStation CD-ROM, located in folder \Bootp. ~~The screens refer to version B.01.0x~~

1 The Agilent Bootp Service is placed in the start-up group and automatically is started during the boot process of the PC.

2 Open the Bootp Settings window (Figure 15) and enter the default settings for your setup.



location of LogFile and TabFile

Figure 15 Bootp Service Settings

3 Launch the Manager. It will open the Bootp Manager screen, see Figure 16. This shows all network hardware that has been added (initially empty).

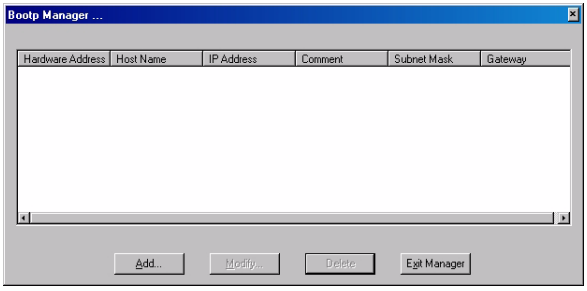


Figure 16 Bootp Manager

4 Select Add to enter the enter the module specific information, see Figure 17:

- MAC address (from label on the instrument)
- host name
- IP address
- comment (instrument name / location)
- subnet mask (if different)
- gateway (if required)

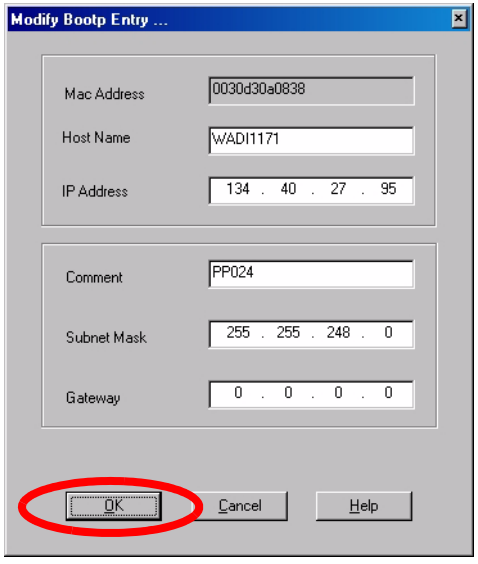


Figure 17 Bootp Manager - Enter your parameter

5 Press OK. The parameter are added to the Bootp Manager, see Figure 17 and added to the TabFile, see Figure 15 on page 28:

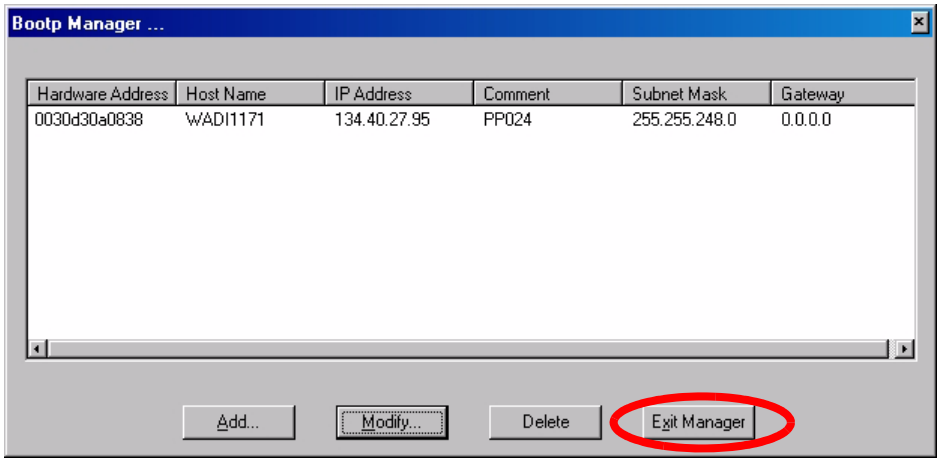


Figure 18 Bootp Manager - check your entries

6 Press Exit Manager and OK to exit the Agilent Bootp Service.

7 Now turn on the module with the detector, wait about 30-60 seconds and view the LogFile, see Figure . It should display the request from the detector with the hardware (MAC) address.

02/03/05 16:33:56 PM
Status: BOOTP Request received at outer most layer
Status: BOOTP Request received from hardware address: 0030D30A0838
Status: found 134.40.27.95 WADI1171:
Status: Host IP Address is: 134.40.29.56
Status: Reply to BOOTP Request has been sent
Status: BOOTP Request finished processing at outer most layer

LogFile - the detector has received the parameter

NOTE

When using this **Bootp** mode, the parameters are not written into the non-volatile memory of the detector. If you delete this Bootp Configuration, the Bootp Manager will show up as shown in Figure 16 on page 28 (**Bootp** mode).

If you want to store your parameters permanently on the detector (for use without the Agilent Bootp service), refer to "Storing the Settings Permanently with Bootp Program" on page 36.

Configuring the CAG Bootp Server Program

NOTE

All examples shown in this chapter will not work in your environment. You need your own IP-, Subnet-Mask- and Gateway addresses.

NOTE

Assure that the LAN Interface configuration switch is set properly. The setting should be either **Bootp** or **Bootp & Store,** see Table 5 on page 22.

NOTE

Assure that the instrument with the LAN Interface installed and connected to the PC is powered off.

NOTE

If the CAG Bootp Server program is not already installed on your PC, then install it from your Agilent ChemStation CD-ROM, located in folder \Bootp.

1 The CAG Bootp Server program is placed in the start-up group and automatically is started during the boot process of the PC. It's minimized and located in the task bar.

2 Open the Bootp Server window by clicking on it in the task bar.

3 Now turn on the module with the LAN Interface and view the Bootp Server window. After some time the Bootp Server will display the request from the LAN Interface with the hardware (MAC) address (this information is also stored in the file trace.txt in the bootp server directory, if Log to Disk is enabled), see Figure 19 on page 32.

   The MAC or hardware address of the LAN Interface is a world wide unique identifier. No other network device will have the same hardware address.

   The MAC address can be found on a label on the card, see Figure 6 on page 17.

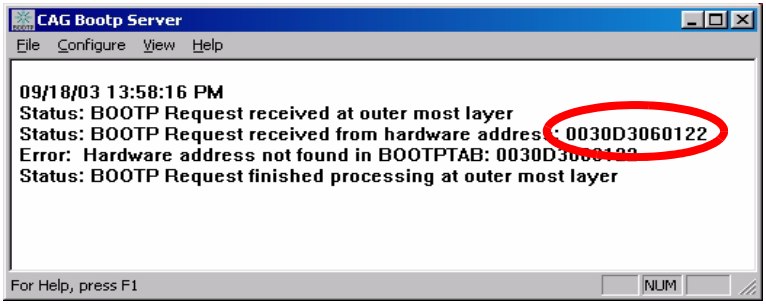

CAG Bootp Server
File Configure View Help
09/18/03 13:58:16 PM
Status: BOOTP Request received at outer most layer
Status: BOOTP Request received from hardware addres : 0030D3060122
Error: Hardware address not found in BOOTPTAB: 0030D3
Status: BOOTP Request finished processing at outer most layer
For Help, press F1
NUM

Figure 19 Bootp Server

4 Identify your LAN Interface by the MAC address, see Figure 19.

NOTE If you are working in a network system, you may see other LAN Interfaces appear, overwriting your LAN Interface information periodically.

5 Select *Configure -> Add Entry* to configure the Bootp Manager (Figure 21). The drop down box “MAC address” lists all MAC addresses found. Select your MAC address. If no hardware address is found, select *Cancel* and repeat step 3 and step 4.

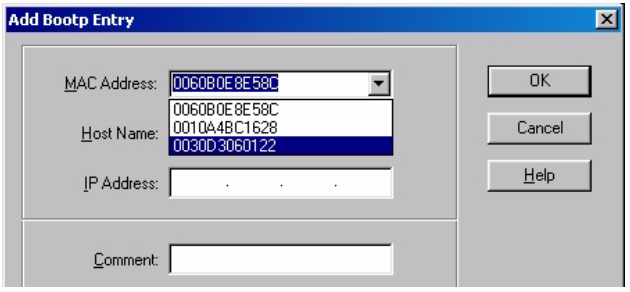


Figure 20 Add Bootp Entry - Select the MAC address

6 Specify the Host Name (LC1100-01), the IP address (134.40.24.230), the Comment (LC1100-01) and the Subnet Mask 255.255.248.0 and the Gateway (134.40.24.1).

NOTE If you are working in a network system, you need your own addresses. Contact your local IT group.

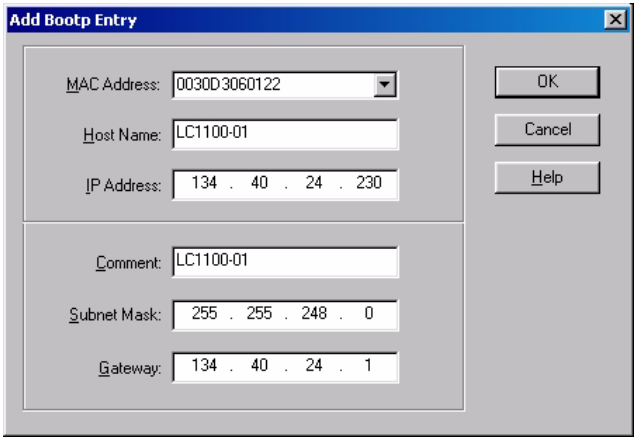


Figure 21 Add Bootp Entry - Enter your parameter

7 Exit with *OK*.

8 Select *Configure -> Bootp Manager*. All entries made above are shown in Figure 22 on page 34.

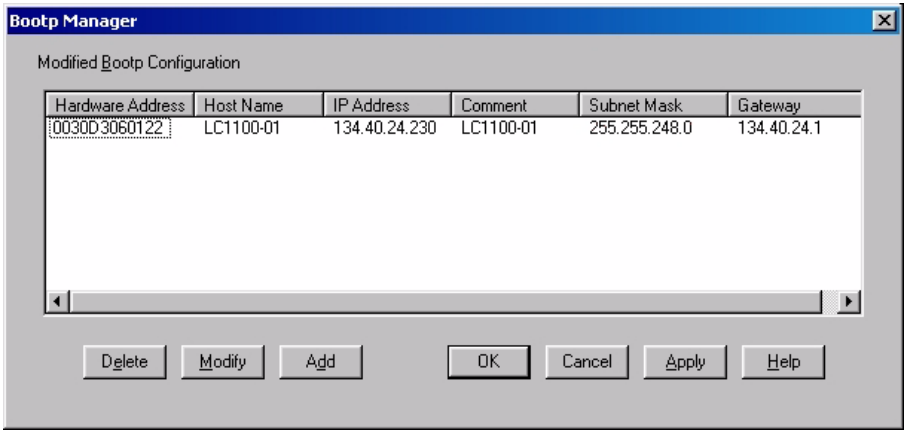


Figure 22 Bootp Manager

9 Press *Apply* to activate the changes.

10 Press *OK* to exit the Bootp Manager and power cycle the instrument with the LAN Interface, to force it to send a new bootp request again. This time, the MAC address will be recognized by the Bootp Server (Figure 23). It will send the configured IP address and subnet mask information which are necessary for communication to the LAN Interface.

IP address LAN Interface is 134.40.24.230

IP address PC is 134.40.30.184

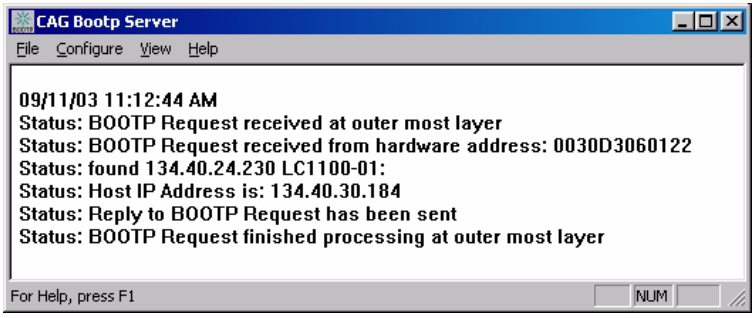

CAG Bootp Server
File Configure View Help
09/11/03 11:12:44 AM
Status: BOOTP Request received at outer most layer
Status: BOOTP Request received from hardware address: 0030D3060122
Status: found 134.40.24.230 LC1100-01:
Status: Host IP Address is: 134.40.30.184
Status: Reply to BOOTP Request has been sent
Status: BOOTP Request finished processing at outer most layer
For Help, press F1
NUM

Figure 23 Bootp Server - module found

NOTE

When using this **Bootp** mode, the parameters are not written into the non-volatile memory of the card. If you delete this Bootp Configuration, the LAN Interface will show up as shown in Figure 19 on page 32 (**Bootp** mode).

If you want to store your parameters permanently on the card (for use without the CAG Bootp server), refer to "Storing the Settings Permanently with Bootp Program" on page 36.

Storing the Settings Permanently with Bootp Program

If you want to change parameters of the card using the Bootp follow the instructions below.

NOTE Use an ESD (Electro-Static Discharge) wrist strap when handling electronics. Refer to your instrument manual for details.

1. Turn off the module that hosts the LAN Interface and remove the card.
2. Change the card's settings of the Configuration Switch to **"Bootp & Store"** mode, see Table 5 on page 22.
3. Install the LAN Interface.
4. Start the CAG Bootp Server program and open its window.
5. If required, modify the parameters for the LAN Interface according to your needs using the existing configuration.
6. Press *OK* to exit the Bootp Manager.
7. Now turn on the module with the LAN Interface and view the Bootp Server window. After some time the Bootp Server will display the request from the LAN Interface. The parameters are now stored permanently in the non-volatile memory of the card.
8. Close the CAG Bootp Server program and turn off the module and remove the LAN Interface.
9. Change the settings of the card's Configuration Switch to **"Using Stored"** mode, see Table 5 on page 22.
10. Install the card and power cycle the module with the LAN Interface. The card can be accessed now via LAN without the CAG Bootp Server program, refer to "PC and Agilent ChemStation Setup" on page 48.

Manual Configuration

Manual configuration only alters the set of parameters stored in the non-volatile memory of the card. It never affects the currently active parameters. Therefore, manual configuration can be done at any time. A power cycle is mandatory to make the stored parameters become the active parameters, given that the initialization mode selection switches are allowing it.

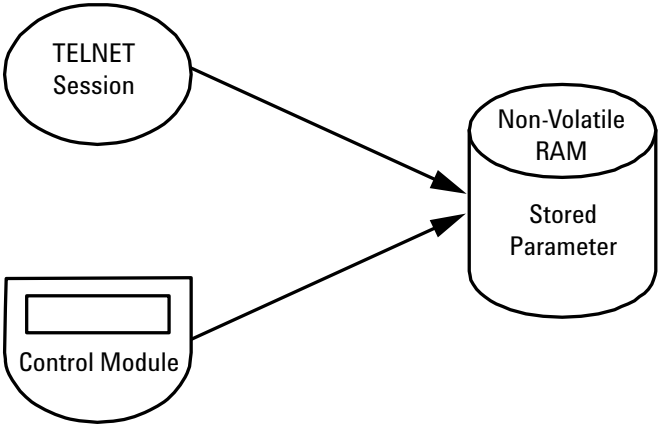


Figure 24 Manual Configuration (Principle)

With Telnet

Whenever a TCP/IP connection to the card is possible (TCP/IP parameters set by any method), the parameters may be altered by opening a Telnet session.

1 Open the system (DOS) prompt window by clicking on Windows START button and select "*Run...*". Type "cmd" and press OK.

2 Type the following at the system (DOS) prompt:

```
c:\>telnet <IP address>
```

Figure 25 Telnet - Starting a session

where <IP address> may be the assigned address from a Bootp cycle, a configuration session with the Agilent Instant Pilot (G4208A) or Handheld Controller (G1323A/B), or the default IP address (see "Configuration Switches" on page 21).

When the connection was established successfully, the card responds with the following:

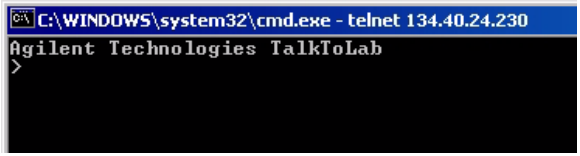


Figure 26 A connection to the module is made

3 To change a parameter follows the style:

parameter value

for example: `ip 134.40.24.230`

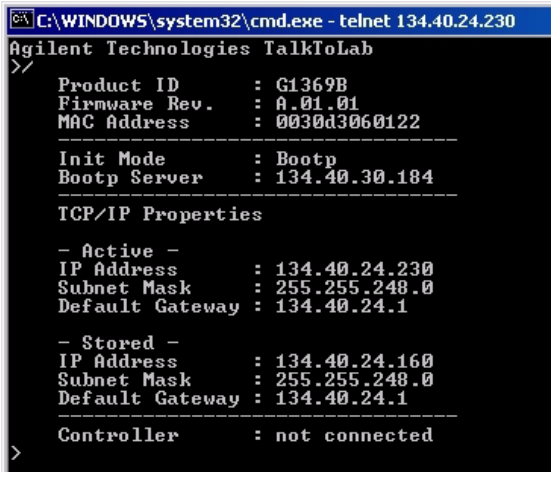
then press [Enter], where parameter refers to the configuration parameter you are defining, and value refers to the definitions you are assigning to that parameter. Each parameter entry is followed by a carriage return.

Table 8 Telnet Commands

Value	Description
?	displays syntax and descriptions of commands
/	displays current settings
ip <x.x.x.x>	sets new ip address
sn <x.x.x.x>	set new subnet mask
gw <x.x.x.x>	sets new default gateway
quit	saves changes and exit shell
exit	exits shell without saving changes

NOTE Any time during the Telnet session you can type "?" then press [Enter] to view available configuration parameters, the correct command format, and a list of additional commands to display.

4 Use the "/" and press Enter to list the current settings.



information about the card
Product id, firmware revision (A.xx.xx are released versions), MAC address, initialization mode

Initialization mode is Bootp
The connected PC/Bootserver is 134.40.24.184

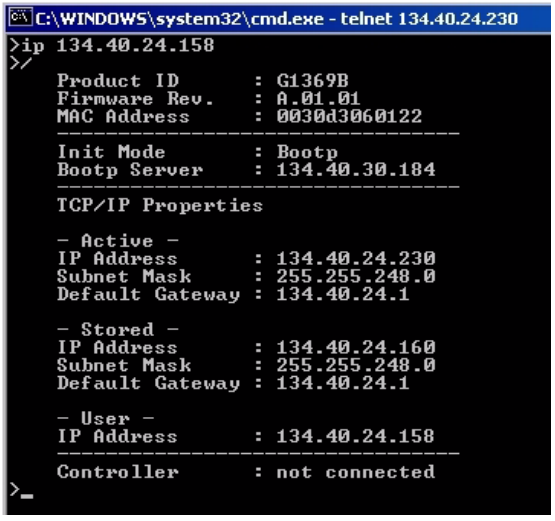
active TCP/IP settings

stored TCP/IP settings in non-volatile memory (not visible if equal to active TCP/IP settings)

connected to PC with controller software (e.g. Agilent ChemStation), here not connected

Figure 27 Telnet - Current settings in Bootp mode

5 Change the IP address (in this example 134.40.24.158) and type "/" to list current settings.



change of TCP/IP setting

Initialization mode is Bootp
The connected PC/Bootserver is 134.40.24.184

active TCP/IP settings

stored TCP/IP settings in non-volatile memory

last user change (not active yet, requires mode "Using Stored" and re-start)

Figure 28 Telnet - Change IP settings

6 When you have finished typing the configuration parameters, type:

`quit` and press [Enter] to store the configuration parameters

or

`exit` and press [Enter] to exit without storing parameters.

If the Initialization Mode Switch is changed now to **“Using Stored”** mode, the instrument will take the stored settings when the module is re-booted. In the example above it would be 134.40.24.158 on QUIT and 134.40.24.160 on EXIT.

With Agilent Instant Pilot

To configure the TCP/IP parameters before connecting the detector to the network, the Instant Pilot (G4208A) can be used.

1 From the Welcome screen press the **More** button.

2 Select **Configure.**

3 Press the **DAD** (MWD) button.

4 Scroll down to the LAN settings.

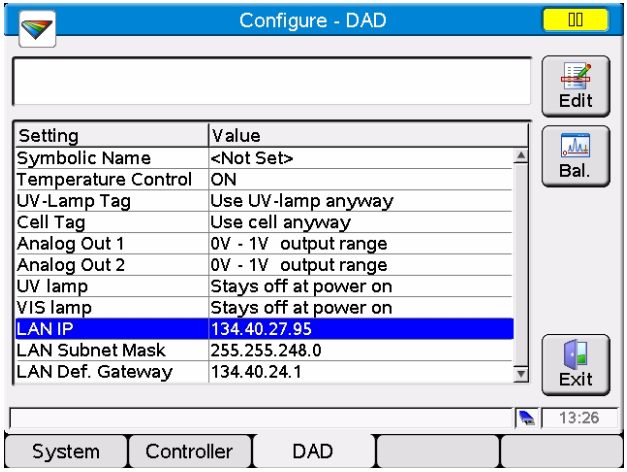


Figure 29 Instant Pilot - LAN Configuration

5 Press the **Edit** button, perform the required changes and press the **Done** button.

6 Leave the screen by pressing the **Exit** button.

With Handheld Controller G1323B

To configure the TCP/IP parameters before connecting the card to the network, the Handheld Controller (**G1323B with firmware B.02.02 or above for 1100/1200 series modules only**, see "LAN Interface Compatibility" on page 13) can be used.

1 Press F5 "Views", select "System" and press the "Enter" key.

2 Press F2 "Configure", select the module where the LAN Interface is installed and press the "Enter" key (Figure 30).

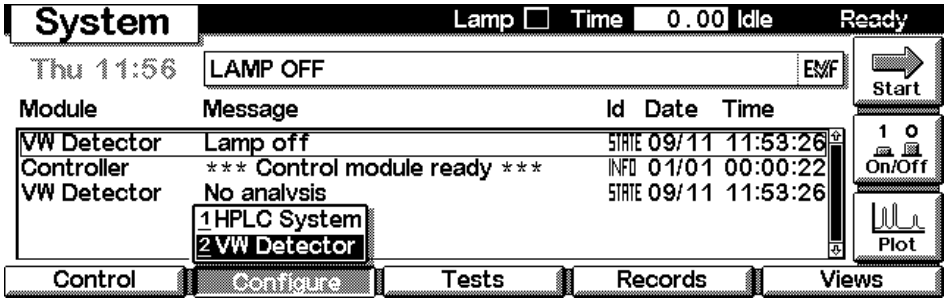


Figure 30 Select module

3 Press F1 "Interfaces", select "MIO" and press the "Enter" key (Figure 31).

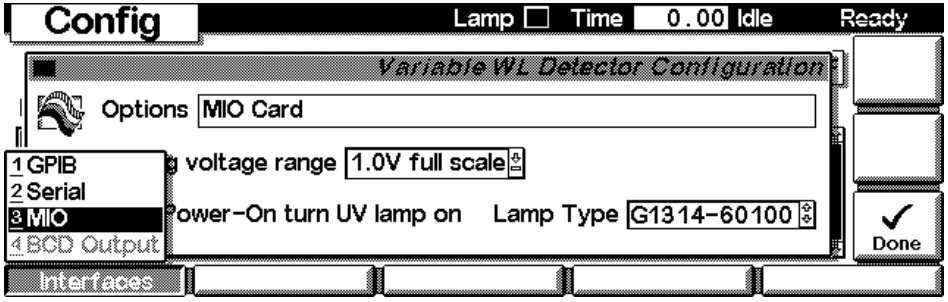


Figure 31 Select MIO

4 A Warning message shall pop up. Press “Continue” (Figure 32).

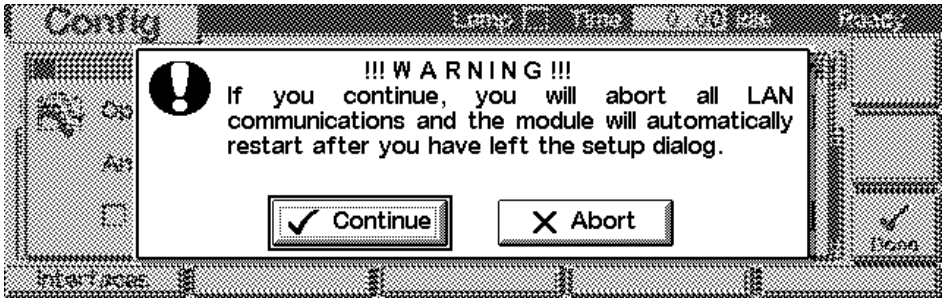

Config
!!! W A R N I N G !!!
If you continue, you will abort all LAN communications and the module will automatically restart after you have left the setup dialog.
Continue
Abort
Interfaces

Figure 32 Warning message

5 After the Handheld Controller was reading out the LAN Interface you will get an overview of all the parameters that are set in the card (LAN Interface Status Page). The information corresponds to the information in Figure 27 on page 40.

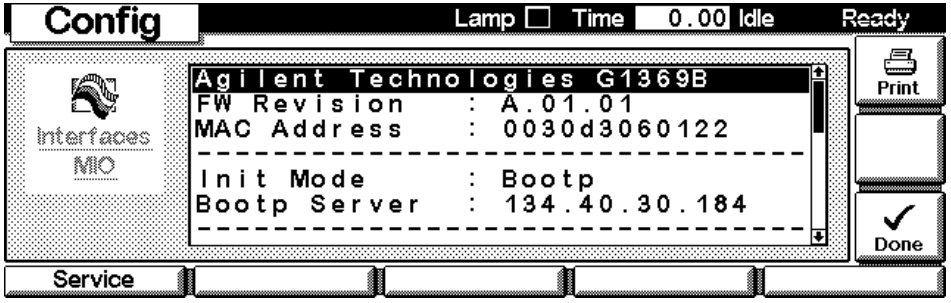


Figure 33 LAN Interface Status Page

In Figure 34 on page 45 the complete listing is shown. For explanations refer to Figure 27 on page 40.

```
Agilent Technologies G1369B
FW Revision    : A.01.01
MAC Address    : 0030d3060122
--------------------------------
Init Mode      : Bootp
Bootp Server   : 134.40.30.184
--------------------------------
TCP/IP Properties
- active -
IP Address     : 134.40.24.230
Subnet Mask    : 255.255.248.0
Def. Gateway   : 134.40.24.1
- stored -
IP Address     : 134.40.24.160
Subnet Mask    : 255.255.248.0
Def. Gateway   : 134.40.24.1
--------------------------------
TCP/IP Status  : Ready
--------------------------------
Controller     : not connected
```

Figure 34 LAN Interface Status Page (complete)

6 To change the TCP/IP settings, press F1 “Service”.

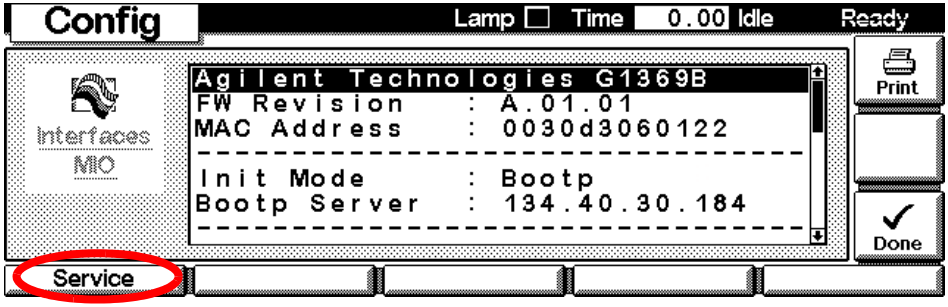


Figure 35 Entering the Service Mode

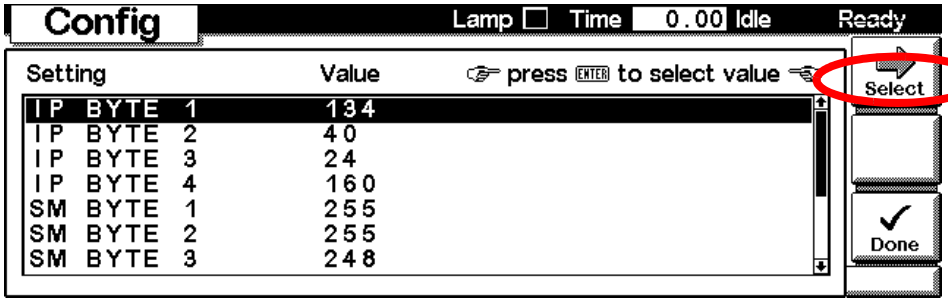


Figure 36 TCP/IP parameters

7 Move to the parameter you want to change, enter the new value and press "Enter".

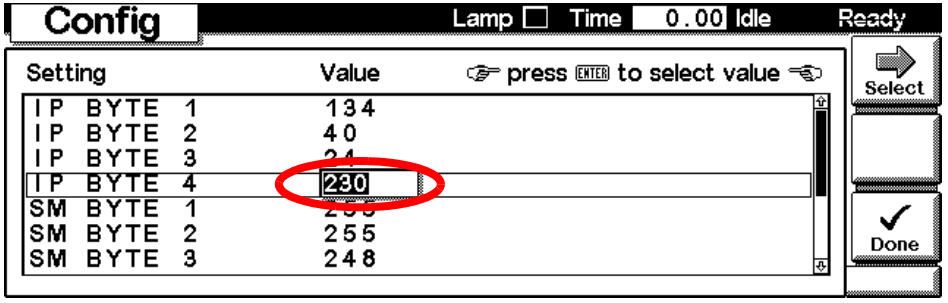


Figure 37 Service

8 If you completed your changes, press “Done” to leave the Service section.

9 Press F6 “Done” and restart the module by pressing “OK” .

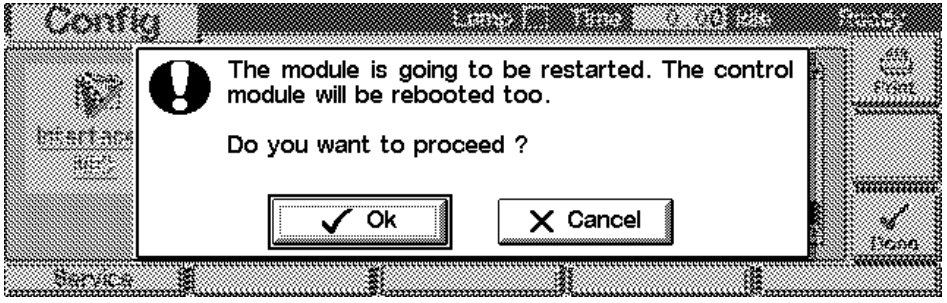

Config
The module is going to be restarted. The control module will be rebooted too.
Do you want to proceed ?
Ok
Cancel
Service

Figure 38 Re-boot screen

PC and Agilent ChemStation Setup

PC Setup for Local Configuration

This procedure describes the change of the TCP/IP settings on your PC to match the LAN Interface default parameters in a local configuration (see also "Local Configuration Using Cross-over Cable" on page 11 and "Using Default" on page 24).

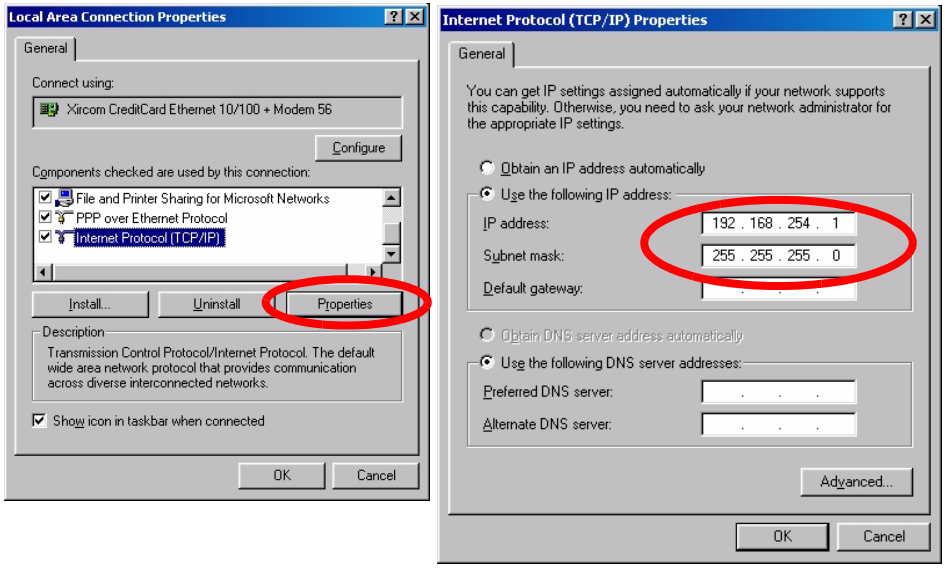

Local Area Connection Properties
General
Connect using:
Xircom CreditCard Ethernet 10/100 + Modem 56
Configure
Components checked are used by this connection:
File and Printer Sharing for Microsoft Networks
PPP over Ethernet Protocol
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in taskbar when connected
OK
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 254 . 1
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

Figure 39 Changing the TCP/IP settings of the PC

Agilent ChemStation Setup

1 Start the Configuration Editor of the Agilent ChemStation.

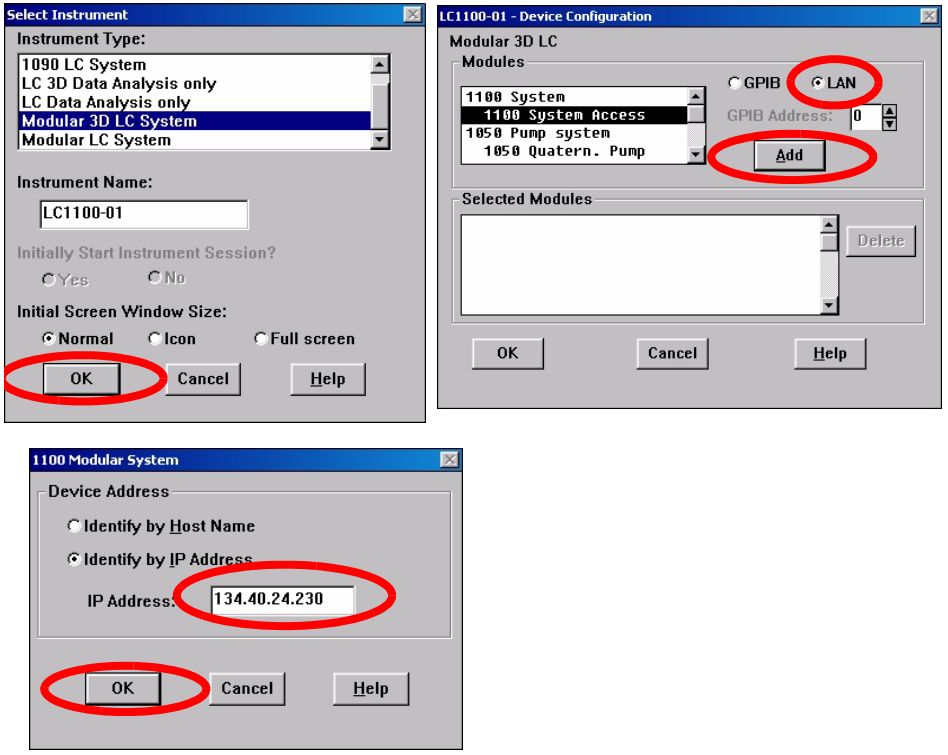


Figure 40 Changing the TCP/IP settings of the Agilent ChemStation

2 Add a TCP/IP connection to communicate with the LAN Interface. Use the IP address of the LAN Interface.

NOTE If using a corporate LAN, IP addresses need to be supplied by the responsible IT department. Also the LAN needs to be able to handle additional traffic.

3 Save the configuration, close the Configuration Editor and start the Agilent ChemStation.

3
Getting Help

Troubleshooting 52
Link Status LEDs 52
Error Messages 53
Repair and Parts Information 54
Firmware Update 55
Agilent Support Information 56
Reporting of Problems 56
Agilent Web 56
Glossary 57

In this chapter you will find support information about troubleshooting, repair and the Agilent web.

Troubleshooting

If the LAN Interface does not successfully connect to the network, there are several ways to get status information from the card.

Link Status LEDs

On the card, near the RJ-45 connector, two status LEDs are mounted. See Figure 41.

Figure 41 Status LEDs

The LED named “Speed” shows the actual link speed.

Table 9 LED “Speed”

LED off	link speed 10 Mbps
LED on	link speed 100 Mbps

The LED named “Activity” shows whether the physical link is established or not. In addition, it shows whether the card is transferring data or not.

Table 10 LED “Activity”

LED off	no physical link established
LED on	physical link established
LED blinking	transferring data

Error Messages

The error messages are shown in the LAN Interface Status Page on the Control Module (G1323A/B) only, refer to "With Handheld Controller G1323B" on page 43.

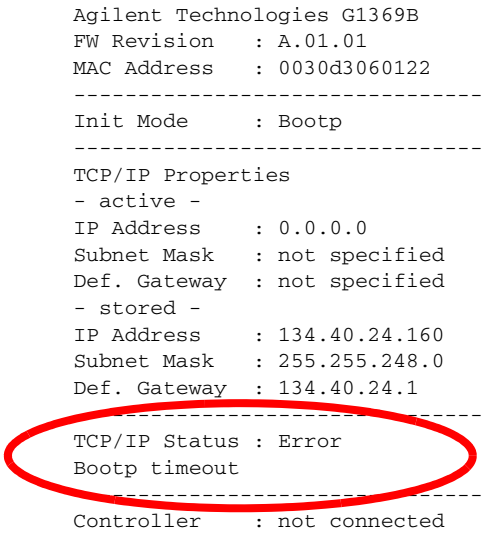

Agilent Technologies G1369B
FW Revision : A.01.01
MAC Address : 0030d3060122
Init Mode : Bootp
TCP/IP Properties
- active -
IP Address : 0.0.0.0
Subnet Mask : not specified
Def. Gateway : not specified
- stored -
IP Address : 134.40.24.160
Subnet Mask : 255.255.248.0
Def. Gateway : 134.40.24.1
TCP/IP Status : Error
Bootp timeout
Controller : not connected
Possible reasons:
Bootp server not started or no settings for this MAC address found

Figure 42 LAN Interface Status Page (complete)

If status "Error" shows up, possible error conditions are listed below.

Table 11 Error conditions

Error	Description	Action
Bootp timeout	No reply on Bootp request received	Start Bootp server and/or add settings for the LAN Interface.
Bootp reply incomplete	Bootp reply contained not all information	Complete the neccessary information
Gateway in unreachable network	Default Gateway does not match the specified IP address and Subnet Mask	Correct the settings

Repair and Parts Information

The repair level of the product Agilent G1369B LAN Interface is replacement of the complete board.

Figure 43 What you will get (Content of G1369B)

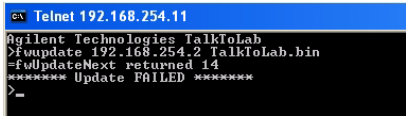
Table 12 Order information

Order number	Description
G1369B	complete product, Agilent G1369B LAN Interface (includes CD-ROM with electronic manual)
G1369-60002	same as G1369B. The board G1369-61800 is a manufacturing number only and cannot be ordered.
G1369-90001	The actual manual as PDF file is available via the Agilent web only, see "Agilent Web" on page 56
5023-0203	Cross-over (point-to-point) network cable (shielded, 3 m long)
5023-0202	Twisted pair network cable (shielded, 7 m long)

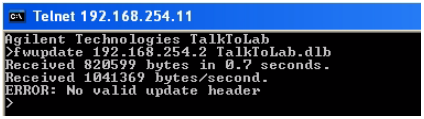
Firmware Update

The LAN Interface's firmware can be updated, using the firmware provided by the Agilent support web side. A procedure will be provided with the firmware.

The G1369B LAN card does not take the firmware of the G1316A LAN card and vice versa. An error message will show up.



Load of G1369A firmware into G1369B LAN card



Load of G1369B firmware into G1369A LAN card

Figure 44 Error when using wrong firmware

Update Procedure

1. Download the actual firmware from the Agilent web http://www.chem.agilent.com/scripts/cag_firmware.asp?nmod=LC
2. The zipped firmware archive contains all required files and the procedure for the update.
3. Follow the provided instructions.

Agilent Support Information

Reporting of Problems

If the LAN Interface shows problems in your system report it with the following information (from the MAC-Label, see Figure 8 on page 18):

- Part number of the LAN Interface
- Board Revision Code, Vendor, Year and Week of assembly
- MAC address
- Installed firmware revision (if known or still accessable, see Figure 27 on page 40 or Figure 42 on page 53).

Agilent Web

Latest documentation or firmware updates for this product (Agilent G1369B LAN Interface) can be obtained from the Agilent web side

http://www.agilent.com

> Life Sciences/Chemical Analysis

For firmware select “Technical Support”, then look for “Firmware for LC & LC/MS”

For manual select “Library”, then search for G1369B and “manual”

Glossary

Table 13 Glossary

Term / Acronym	Definition
10/100Base-TX	Twisted pair Ethernet cable.
Bootp	Bootstrap Protocol, an Internet protocol that enables a diskless workstation to discover its own IP address
CAN	Controller Area Network; a shared broadcast bus, which runs at speeds up to 1Mbit/sec; it is a serial data communications bus for real-time applications.
CAG	Chemical Analysis Group (Agilent term)
DOS	Disk Operating System. The term DOS can refer to any operating system, but it is most often used as a shorthand for MS-DOS (Microsoft disk operating system).
ESD	Electrostatic discharge, the rapid discharge of static electricity from one conductor to another of a different potential. An electrostatic discharge can damage integrated circuits
Ethernet	A local area network (LAN) specified as IEEE 802.3
Gateway	A node on a network that serves as an entrance to another network.
HP-IB or GP-IB	The IEEE-488 Interface Bus (HP-IB) or general purpose interface bus (GP-IB) was developed to provide a means for various instruments and devices to communicate with each other under the direction of one or more master controllers. The HP-IB was originally intended to support a wide range of instruments and devices, from the very fast to the very slow.
IP address	An identifier for a computer or device on a TCP/IP network.
Host	A computer system that is accessed by a user working at a remote location.
Hub	Is some kind of router, which allows clients to connect each other.
LAN	Lab Area Network

Table 13 Glossary

Term / Acronym	Definition
LED	Light Emitting Diode
MAC address	Media Access Control address, a hardware address that uniquely identifies each node of a network.
MIO	Modular Input/Output; interface specification from Hewlett-Packard
RJ-45 connector	Registered Jack-45, an eight-wire connector used commonly to connect computers onto a local-area networks (LAN), especially Ethernets. RJ-45 connectors look similar to the RJ-11 connectors used for connecting telephone equipment, but they are somewhat wider.
Subnet Mask	A mask used to determine what subnet an IP address belongs to. Subnetting enables the network administrator to further divide the host part of the address into two or more subnets.
TCP/IP	Transmission Control Protocol/Internet Protocol; LAN (Ethernet) protocol
Telnet	A terminal emulation program for TCP/IP networks such as the Internet.

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In This Book

This guide contains information to install the LAN Interface (G1369B).

- Introduction - Around your LAN Interface
- Getting Started
- Getting Help

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